

## ON SOME REPTILIAN FREAKS FROM INDIANA.

BY W. S. BLATCHLEY.

Cases of deformity or malformation are seemingly much less common among wild forms of life than among mankind or his domestic animals. One often sees or hears of two-headed calves, five-legged pigs and four-legged chickens, but "freaks" among wild mammals, birds and reptiles come to notice but seldom. In the literature on herpetology at my command I can find only the following records of malformation among reptiles and batrachians in the United States.

Dr. Samuel L. Mitchill, in the early part of the nineteenth century, published an article entitled "Facts and considerations showing that the Two-Headed Snakes of North America and other parts of the World are not individuals of a distinct race, but universally Monsters,"<sup>1</sup> in which he recorded the finding in Genesee county, New York, of 120 of the young of a female black snake, *Bascanion constrictor* L., among which were "three monsters, one with two distinct heads; one with a double head and only three eyes; and one with a double skull, furnished with three eyes and a single lower jaw; this last had two bodies." These three specimens he figured on an accompanying plate.

Dr. Mitchill noted that records of two-headed snakes had been made up to that date from the "West Indian and Polynesian islands; in Great Britain and in Italy," and that those from the foreign countries had been supposed to "constitute a race of their own and propagate their kind in regular succession." His paper, based on the finding in New York of three individuals among one litter, was written to controvert this foolish supposition. He added that "serpents are destitute of limbs, and are consequently incapable of monstrosity in feet, legs, hands and arms, either by defect, redundancy or malformation; when it happens, therefore, monstrosity must be in the head or tail, and the head is most frequently the seat of it."

Prof. Jeffries Wyman recorded the occurrence in Massachusetts of a specimen of water snake, *Tropidonotus sipedon* (L.), with two heads and two tails.<sup>2</sup>

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<sup>1</sup> *American Journ. Science and Arts*, X, 1826, 48.

<sup>2</sup> *Proc. Bost. Soc. Nat. Hist.*, IX, 183.

In the *American Naturalist*, Vol. XII, 1878, p. 470, Mr. H. C. Yarrow stated that there was "but one two-headed snake in the enormously large collection of reptiles in the Smithsonian Institution." This was a specimen of *Ophibolus gctulus* (L.), the common chain or king snake, from Port Tobacco, Maryland.

In the same volume, page 694, Dr. J. S. Kingsley mentioned a two-headed snake, species not given, as being in the collection of Williams College, Massachusetts.

In his "Report on the Reptiles and Batrachians of Ohio,"<sup>3</sup> Dr. W. H. Smith stated that the Museum of Michigan University contains a double-headed milk snake, *Ophibolus dolatus triangulus* (Boie). He added: "Cases of monstrosities among serpents have been observed by various parties from the time of Aristotle and Redi to the present, and they, as well as the occurrence of monsters in general, may be due to shock."

Concerning two-headed turtles I can find but one reference, viz., Dr. Mitchell, *loc. cit.*, says: "I have heard of a two-headed tortoise (*Testudo*) that lived to acquire a considerable size, by having taken food at both mouths."

But two notes regarding malformation among batrachians are at hand. One of these is by Dr. Kingsley, *loc. cit.*, in which he records a specimen of a five-legged frog, *Rana palustris*, from Rochester, New York. The other, by Smith, *loc. cit.*, refers to a mention by Ryder<sup>4</sup> of another five-legged frog of the same species.

During the past fifteen years examples of four two-headed snakes, one two-headed turtle, one five-legged frog and one two-tailed salamander from Indiana have come to my notice. While I have seen but two of the individuals, the records of the others can be relied upon.

*Two-headed Snakes.* a. Of the snakes, one at hand as I write is a specimen of the spreading viper, *Heterodon platyrhinus* Latr., six and a half inches in length, taken near Manilla, Rush county, by S. C. Peck in August, 1904, and by him presented to the State Museum. It has two perfect heads, both possessing the scale formula of the species. Each head stands out at nearly right angles to the median line of the front extremity of the body, the center or keel of the two rostral plates being 22 mm. apart. The two heads unite just back of the hindmost of the inner lower labials, there being three rows of small scales between the inner upper labials. Viewed from above, the right head appears

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<sup>3</sup> *Geol. Surv. of Ohio*, IV, 1882, 690.

<sup>4</sup> *Science News*, December 15, 1878, p. 69

very slightly longer than the left, but when compressed together there is no difference, each one being 13 mm. in length. The two cesophagi unite in a common gullet just back of the point of union. In all other respects the specimen is a typical young form of *H. platyrhinus*.

b. A small two-headed garter snake was taken on a farm southwest of Russellville, Putnam county, and was kept in alcohol for several years. It was reported to me by several parties who had seen it, but was thrown out on account of decay, due to loss of alcohol, several weeks before I visited the place. The heads were said to unite about two inches back of the rostral plate, each having a small portion of the body between it and the point of union.

c. In June, 1893, a friend reported to me that his son had killed a two-headed snake in a woods pasture near Terre Haute. In company with the boy I visited the spot the next day, but found that the buzzards had been ahead of me and that only a small portion of the body was left. It was a house or milk snake, *Ophibolus doliatus triangulus* (Boie), and, judging from the fragments and the account of the boy, had been about two and a half feet in length. He said that the heads forked five or six inches back from the front extremity of the body.

d. In the *Indianapolis News* of July 19, 1893, John Collett, ex-State Geologist of Indiana, mentions a "double-headed garter snake as having been taken west of the Wabash river in Vermillion county a few years previously."

*Two-headed Turtle*.—On May 1, 1892, John Tiley, a coal operator, found, near Waterman, in the southwest corner of Fountain county, Indiana, a two-headed turtle. It was presented to Dr. George T. De Verter, who kept it for more than a year, when by accident it was drowned. It was presented in alcohol to Prof. John Collett, of Indianapolis, and, according to the *Indianapolis News* of July 19, 1893, had "nothing to distinguish it from the ordinary little river turtle that sits with a row of fellows on a log and plunks into the water when you creep up with designs upon its freedom. Its back appears a little broader than usual to give it neck room. The heads are not joined and do not interfere with each other's independence. Each has its little sack to retreat into in time of danger. Each has two fully developed eyes, a complete and efficacious mouth and a full throat which is beautifully striped in black and yellow lines. Each has a little stripe of red retreating from each eye, and the heads are twins in size. Either head would have been good enough to serve a turtle of ordinary ambition."

The *News* published a crude drawing of the turtle, and from it and the

above description, I judge that the animal was very probably a specimen of the lady turtle, *Chrysemys marginata* (Agassiz). Dr. De Verter informed the writer that when kept in an aquarium and fed, each head acted wholly independently of the other, the two being thrust forth for different articles of food—meat, mosquito larvæ, tadpoles, etc.—at the same time or at intervals, as occasion and opportunity demanded. What finally became of the specimen on the death of Prof. Collett is not known.

*Five-legged Frog.*—In the spring of 1892, while teaching zoology at Terre Haute, I heard several times of a five-legged frog at a greenhouse in that city. I finally visited the place, but the specimen could not be located. The proprietor informed me that he had seen it on a number of occasions, and had caught it once and then let it go. According to his description, it was probably a specimen of the leopard frog, *Rana virescens* Kalm, with a fifth leg of the same size as each of the two front ones, which was joined to the left side about an inch back of and a little higher than the normal front leg. The specimen was not seen after my visit and probably fell a victim to some prowling cat.

*Two-tailed Salamander.*—On June 21, 1906, I took from an ancient shell mound which was being excavated near Shoals, Martin county, a small specimen of the ashy salamander, *Plethodon cinereus* (Green), which possesses a forked tail. The animal itself was only 38 mm. in length, the tail comprising 12 mm., or nearly one-third. At a point near the middle the tail forked, the two prongs being separated in life by an angle of about 30 degrees. The left or longer fork was 7 mm. in length, while the right or shorter one was but 5 mm. long. Instead of being cylindrical as in typical specimens, each portion was flattened, with rather sharp edges above and below.

It is very probable that cases of malformation among reptiles and batrachians are much more common than is generally supposed. It is safe to say that not more than ten per cent. of the normal individuals which are born or hatched ever come within the range of man's vision. The great majority of the malformed ones are, like those of the domestic animals, either still-born or short-lived. The number of specimens of "freaks" which come to the notice of man is, therefore, doubtless a very small per cent. of those which actually occur.

To the factor of natural variation, rather than that of "shock," is probably due the malformations which do occur. If but three specimens out of 120 of one brood of snakes were malformed on account of a shock to the pregnant mother, why did not that shock affect the others?